

Incorporated in Victoria, 2014, Registration Number: A0061589C

The monthly magazine of the

North East Victoria Amateur Radio Club

<http://nevarc.org.au/>



An Affiliated club of Wireless Institute of Australia

An Affiliated club of Radio Amateur Society of Australia Inc.



Volume No: 09

Issue 7

July

2022

Next Meeting in July, Sunday 10th
Belviour Guides Hall, 6 Silva Drive West Wodonga
Meetings start with a 12.00pm BBQ lunch,
Call in Via VK3RWO, 146.975, 123 Hz



NEVARC Certificate arrived in the mail – well done JMMFD Team

NEVARC FLOOD RESPONSE INITIATIVE

ACMA Update

New Amateur Television Studio

NEVARC Nets

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WHEN FLOOD WATERS RISE, WE RISE UP AS A HAM COMMUNITY.



**We are supporting
people impacted by the
recent floods by
distributing gift cards to
our fellow amateurs.**



<https://nevarc.org.au/flood-recovery/>

With the current state of Floods in Southern Queensland and Northern NSW, the members of the NEVARC have decided that the Club Donate to amateurs in the affected areas.

We have decided on a two pronged approach, being cash assistance straight away and a “Radio Drive” to give them some gear as a second tier approach when they are rebuilding their shacks.

Please, Download the Policy and Procedure Document, pass this to all amateurs, whether they need help, or are willing to help. <http://nevarc.org.au/wp-content/uploads/2022/03/Flood-policy.pdf>

If you are in need of assistance, please contact us at floodrecovery@nevarc.org.au.

If you would like to donate, send an email to contact@nevarc.org.au.

If you have equipment you can spare, let us know at radiodrive@nevarc.org.au.

Amateur radio update: June 2022

Welcome to our second newsletter of 2022.

**Australian
Communications
and Media Authority**

Update: consultation on proposed amateur class licensing arrangements

The next stage of our consultation on the proposed amateur class licence and supporting arrangements has been delayed until Q3 2022.

At that time, we will consult on an updated draft amateur class licence, which incorporates feedback and practical suggestions made by submitters. We will also update the amateur community on the status of key outstanding matters, including international recognition of amateur qualifications and call sign management, since we released our [Response to submissions](#) in November 2021.

Information: Misconceptions about licence variations: understanding what's legal

We have recently received a number of enquiries about licence variations to allow use of higher power. This misconception has stemmed from some historical correspondence from the ACMA that notified licensees of a licence variation under section 111 of the *Radiocommunications Act 1992*.

To clear up any confusion, we would like to remind amateur licensees that we assess every application for a variation (that is, high power conditions) individually, based on each case, and old letters sent by the ACMA or its predecessors cannot be used by either the original recipient or other licensees to justify high power operation.

The conditions for operating your licence are only those that are specified in the Radiocommunications Licence Conditions (Amateur Licence) Determination 2015 or in individual conditions stated on the licence record published on the ACMA's [Register of Radiocommunications Licences](#) (the RRL).

Our [amateur radio factsheet](#) contains more information about regulations applying to amateur radio, and you can send further questions to SpectrumLicensingPolicy@acma.gov.au



**Australian
Communications
and Media Authority**

New Amateur Television Studio

After 12 years with the current PC, BIOS dated 2010, which had held up well, it was time to upgrade. One good thing about delaying computer upgrades is the difference in the performance change is staggering. With computers more involved in ham shack activity, setting everything up back to how it was is a major job. But it is also a good opportunity to improve how things are done. With faster speed running SDR can run in real time without audio dropouts. Amateur Television video processing also now possible with multi layered video, something I did not even attempt with the previous PC.

The old PC was an Intel Core i5 CPU 650 @ 3.20GHz with 16GB Ram

The way they name processors now is not really helpful; you must study a lot more numbers and letters.

Gone are the 8086, 286, 386, 486, 586 names that clearly showed the progression of things.

After much study and seeing what vMix required the selection more than covered the suggested systems.

NEW PC SPECIFICATIONS

CPU:	Intel Core i7 10700KF up to 5.1GHz, 16M Cache
COOLER:	Thermaltake UX200 ARGB CPU Cooler
RAM:	32GB 3200 MHz
MOTHERBOARD:	Intel Z590 Phantom Gaming 4/ac
SSD:	2TB SSD
VGA:	GeForce GTX 1050 Ti
PSU:	Gamdias Kratos 650W 80+Plus Gold ARGB
CD Drive	ASUS (DRW-24D5MT) Black 24x DVD-RW SATA Writer

A processor of i7 10700KF will do what I want it to do, trying to look at comparison websites was too daunting with all the info comparing it to other processors I have not played with. After 12 years I am assuming lots of advancements have been made. You need to over clock it to get 5.1GHz, in reality it will run at 3.79 GHz.

GETTING IT READY

The main job was transferring my files and email account settings, then all my saved website passwords.

This takes a lot of careful documentation before you start to save dramas later.

Only after all was successfully tested on the new system was the old PC account decommissioned.

All the extra SATA hard drives in my old PC were transferred across to the new PC.

The old PC was donated to a family historical society for their library database, currently using old 486 PC's.

The easy part was transferring all my website settings from the browser to the new one.

Copying all the document folders was easy too.

But the worst part was dealing with Microsoft products.

I had a legal copy of Office 2013 on the old PC.

Microsoft says uninstall the old copy of Office, then you can install another copy of Office 2013 with the same install key onto the new PC and activate it. But it refused, saying you are exceeding the number of allowed installs. So their servers did not register the un-installation and surrender of the licence key.

Telephoning 'robot voice' Microsoft got me nowhere, transferred to numbers that were no longer in use.

Eventually I spoke to someone in America that reactivated it via a long series of numbers.

Microsoft Office 2013 support ends in April 2023, so fortunately the computer upgrade happened before then.

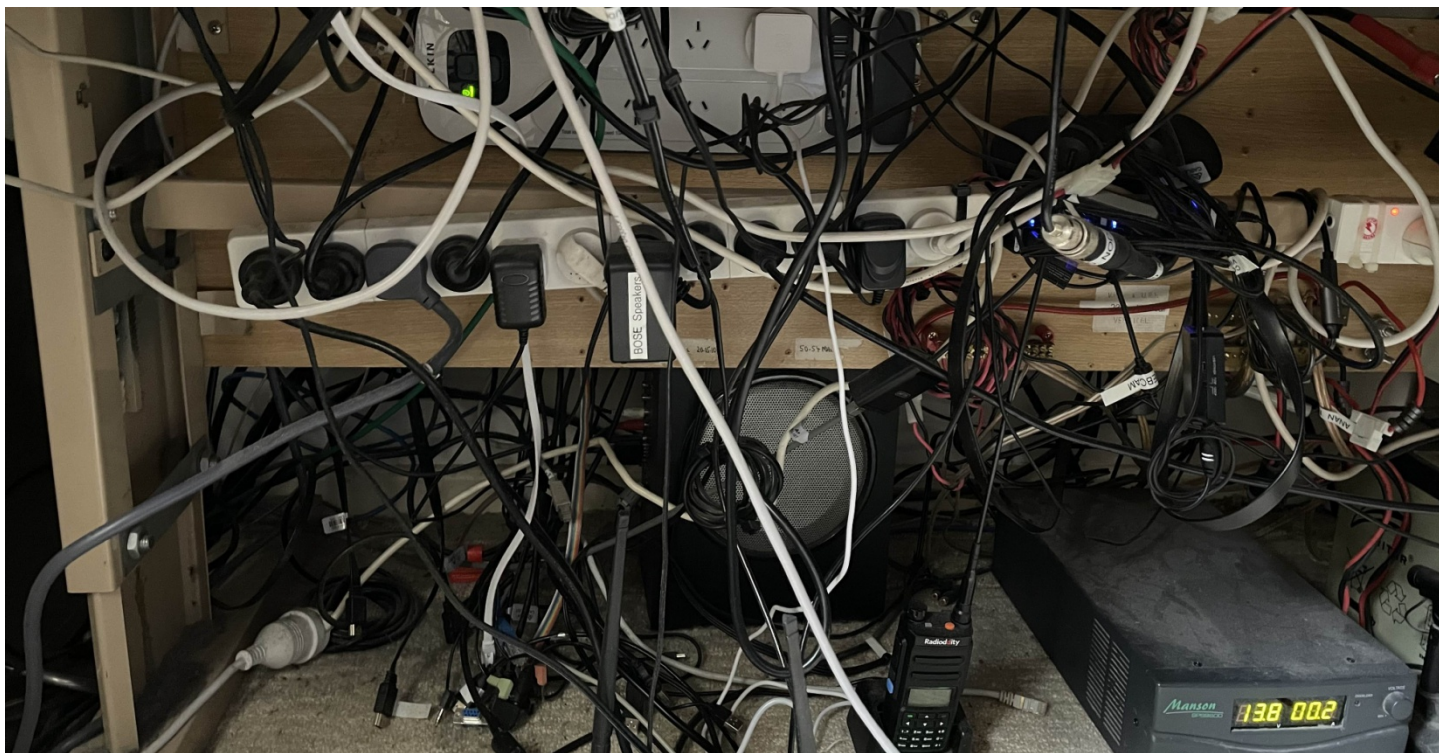
TIME CONSUMING

It took days to get all as I wanted; many programs are just pulled back from the internet like VLC. I still use lots of legacy software for ham radio use, they still run, for now, on a 64 bit system. But the scary job was redoing all the shack computer cabling and identification. Much of this involved the Amateur Television side of things, time for another total revamp. This is a fancy way of saying crawling under the table and cable tracing for hours in tight spots that fingers can't reach without wrecking your spine, it is a painful job, I am getting too old for this.

The new PC, before the extra hard drives added



PC Rear Connections



Just some of the cable mess in the shack that has gone feral over the years

REASON FOR COMPUTER UPGRADE – IMPROVED AMATEUR TELEVISION PRODUCTION

The old PC did all that was needed for typing documents and web browsing and streaming movies. But vMix with multiple video sources running requires more computer power. Running SDR software on the new PC will operate so much better with no audio dropouts.

Latency Mon

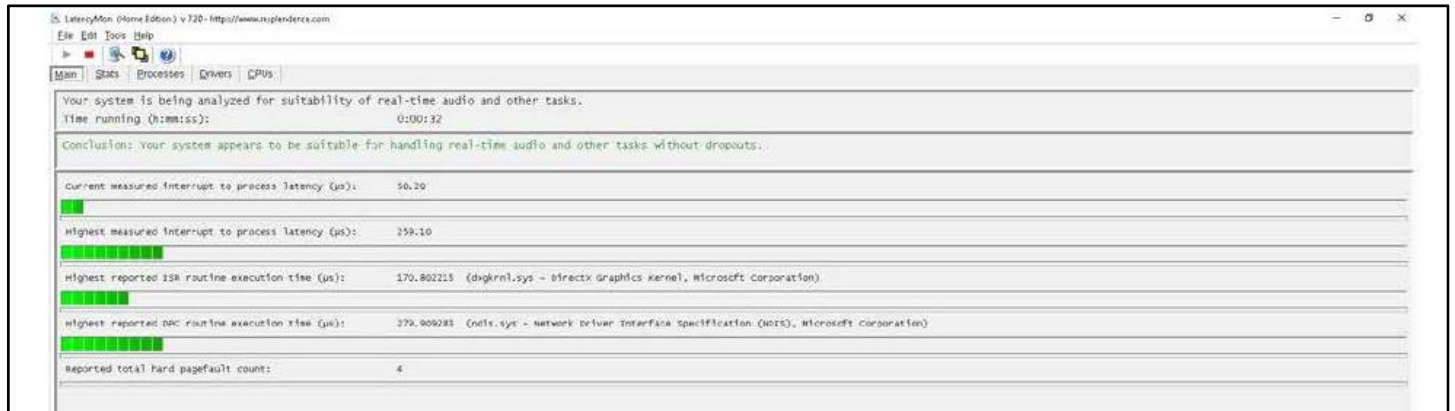
LatencyMon checks if a system running Windows is suitable for processing real-time audio and other tasks. LatencyMon analyses the possible causes of buffer underruns by measuring kernel timer latencies and reporting execution times as well as hard page faults. It will provide a comprehensible report and find the kernel modules and processes responsible for causing audio latencies which result in drop outs.

LatencyMon running on my old PC saw lots of hard page faults.

It said that this system will struggle to process real-time audio with my SDR software.

On the new PC the report was “Your system appears to be suitable for handling real-time audio and other tasks without dropouts”

On the test the green bars do not take up much width. On the old PC they were nearly half way across. The less count in the line is better.



A TOTAL NEW TELEVISION STUDIO DESIGN

I decided to make things simpler this time with both audio and video switching.

Audio mixing was done by Voicemeter Banana. But Voicemeter Banana often had problems recognising various devices, or would sometimes lose the drivers and stop working, often while I was live on air, so I ditched that.

Most of the video switching was done manually by HDMI push button switches. This method also abandoned.

After removing old HDMI switching lots of cables were recovered, no longer required.

Still lots more cables to investigate.

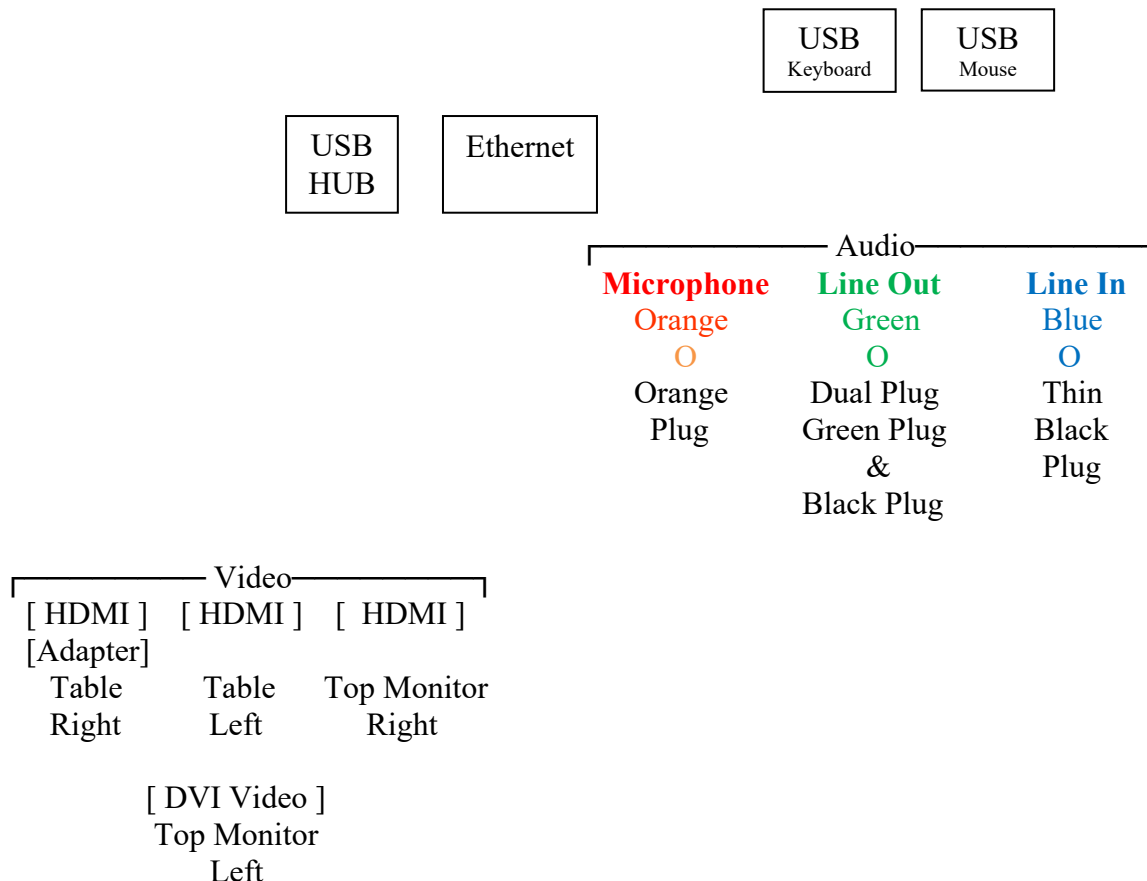


HDMI Cables removed

STRANGE STUFF

The new PC had some issue with the USB Hub in that it kept detecting it with annoying USB plugged in sound repeating continually. Unplugging it made things quiet. So I bought another USB Hub and installed that. Also the new serial card caused random fine red lines on the display. A USB to serial data cable was purchased and the serial card removed. Serial data is used to program the Systems Television Transmitter, but all these functions can also be done from the front panel via mini switches. These settings are rarely altered.

COMPUTER CABLING AT REAR OF DESKTOP CABINET



vMIX SWITCHING OUTPUT

vMix is used to port the final “live to air” video to a monitor of your choice.

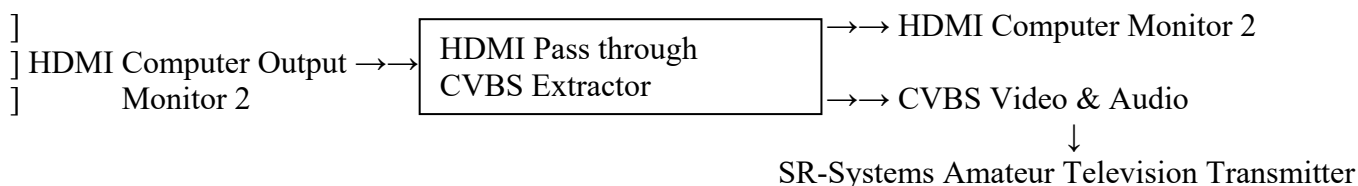
In my setup this is monitor 2, selected by External ► External Output Settings ► Display ► Display 4

Display 4 is my Top Right Monitor, which is used for all computer applications except vMix.

Display 4 [Monitor 2] is switched via a HDMI 2 way switch to a HDMI to CVBS Converter unit that feeds the SR-Systems Amateur Television Transmitter.

vMix has a preview screen so you can see what will go live to air.

This is perfect as looking on the TV has a 2 second delay and is too confusing to follow in real time for serious live television production.



LEARNING vMIX ~ THIS MIGHT TAKE A FEW MONTHS

vMix is up to version 25. You can read more at <https://www.vmix.com/>

I have watched lots of YouTube demos and tutorials and still need to play with it to learn.
I held off installing a timed trial version until I got the new PC.

Free 60 Day Trial of vMix PRO is available from their website.

Most on Amateur Radio Television in Melbourne opt for “VMix HD” for USD \$350

Next month will be spent learning vMix and working out the best way to switch video and what new if any cabling needs to be done. I am hoping vMix will solve all my video switching and audio switching needs.

I have watched many on the Amateur Radio Television repeater going through some pretty rough presentations eventually getting very polished professional shows.

My guess is I will be on the same learning curve, maybe many months, another time consuming experience to keep me entertained through winter.

Until I actually attempt to title, stream video from the PC, input cameras from the shack room and outside and keep the audio going, or being able to talk over if need be, what else is required is unknown at this point.

I am hoping I don't need to spend any more cash, but a few more HD webcams were purchased.
The Logitech C930e webcams suffice for my needs, quite respectable picture for Amateur Television.

I want to keep all the CVBS dome analogue cameras and need to find a way to feed CVBS video into vMix.

More hours on EBay... which can be an expensive way to spend your time.

VIDEO WALL

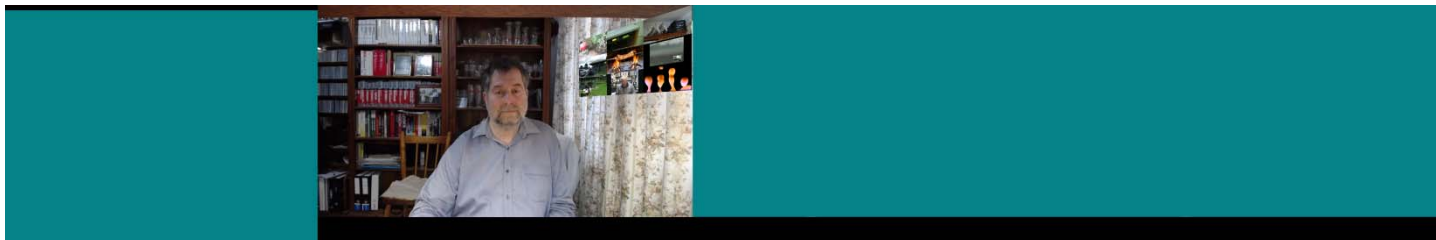
vMix can do lots of neat stuff, but the learning curve is high.

Ian VK3QL walked me through joining up nine separate videos to make a video wall that plays behind you.

I did all that and when I played it all nine audio sounds came through as well!

So it was time to delete and start again, this time deleting out the audio stream for each of the nine videos.
This time it played in the background all quiet.

By the time I ever need to do another one I will probably have to ask Ian VK3QL to remind me what to do!
But I did write a procedure in the newsletter a few days later.



Trying to get a “Print Screen” in vMix is too complicated
The nine picture video wall can be seen to the right

GETTING HDMI VIDEO OUT TO CVBS FOR THE TELEVISION TRANSMITTER

After buying many devices to get my video and audio into my transmitter I finally found a device that works. Well... it did for a while...

This is a HDMI pass through that extracts the CVBS video and sound.

The great thing is as it's a HDMI pass through Windows "sees" whatever is on the other end and sets the video up correctly. In this case it is one of the monitors. What you see on the monitor is what you see on CVBS.

It is called a Digimate 4K 1080P HDMI to HDMI AV Converter, HDMI to RCA CVBS Composite Adapter. It cost \$110 and worth it. Just plug it in, no fuss from Windows – finally!!!



The unit ready to be put anywhere but the floor, once the cables are routed properly

The Specifications

Input ports:	1xHDMI
Output ports:	1xHDMI, 1xCVBS, 1xR/L stereo analogue audio
Dimension (L x W x H):	100(D)x110(W)x25(H)
Weight (g):	245g
HDMI Input/Output Formats:	480I, 480P, 576I, 576P, 720P, 1080I, 1080P@60Hz
CVBS output Formats:	480I, 576I
Audio output Formats:	L/R channels

The input is from the PC monitor that is the output of vMix.

Output will be sent directly to the SR-System Transmitter once I rearrange all the old cabling.

At the moment I can switch between the old analogue system via my CVBS video switcher.

vMix will soon make this unit obsolete.

Even my Basic Stamp OSD Title unit is no longer needed as vMix can title on the fly, with many designs to select including a ticker tape scrolling display, just like as you see on the news.

But the unit stopped working after one day! Had to post it back and waiting on a new one, so this is delaying the whole show as I cannot output video from the PC to the television transmitter.

Time to contact the EBay seller and arrange a replacement – first time I have ever had to do that.

MAKING A VIDEO WALL

As I will forget how to make a video wall, here is how it is done.

First decide how many videos you want to play on your wall.

This can be a selection of anything from one, two, four or nine screens.

They can be arranged in different ways as well.

Then select your video files, better to have a shorter length, but vMix will handle anything, as long as you have a good PC and video card.

Put all your selected video files in a directory. You won't want the audio from each one playing in the background so either strip off the audio from these files, or you will need to have each video file muted when you setup your video wall.

Start vMix and select Add Input ► Add Image ► Browse to location of your image and select it.

This image can be anything as you will build your wall on this, for the sake of the demo I will use nine videos.

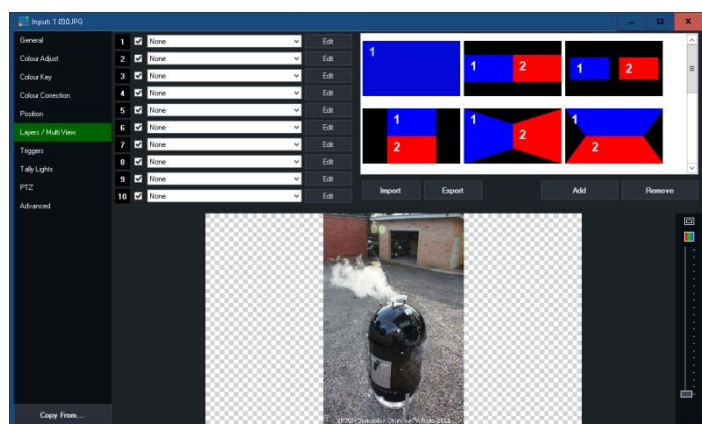
You will now see a square on the bottom of vMix of your picture, I used a Smoker BBQ, use anything.

Use any photo as it will not appear in your video wall, it's just something to anchor your videos on.

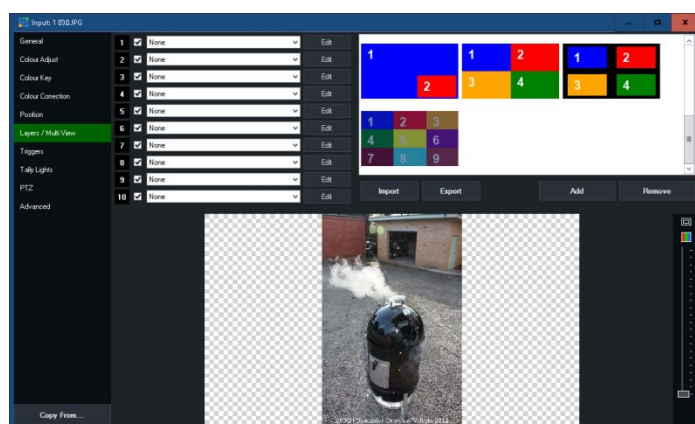
Select the ► cog wheel [or gear wheel as vMix call it] in the bottom right and this next screen will appear.

Select ► Layers / Multi View on the left side.

Drag the screen with the video layouts on the right down and select the nine screen pane.



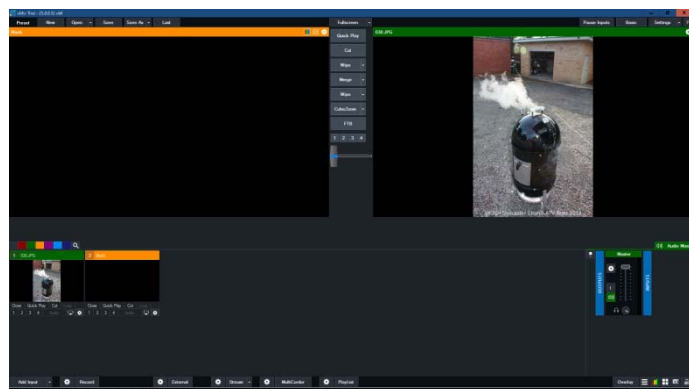
Original Screen



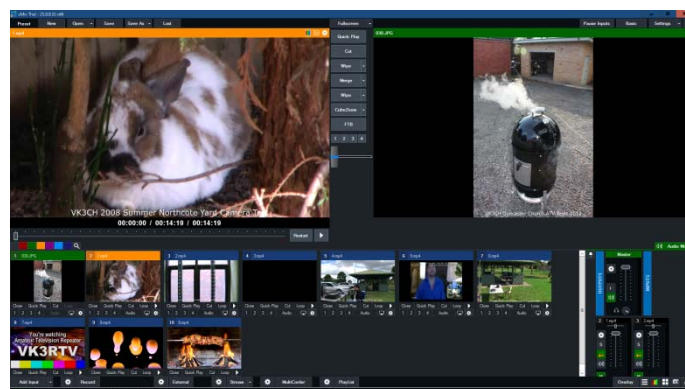
Nine Video Pane Selected

Now click out of the Layers / Multi View.

Now go to your folder with your videos in it, in my case nine of them and select them all and drag and drop them into the bottom screen of vMix. Make sure each of the nine screens have the "Loop" button selected so they keep playing over and have the start arrow selected so they are actually playing.

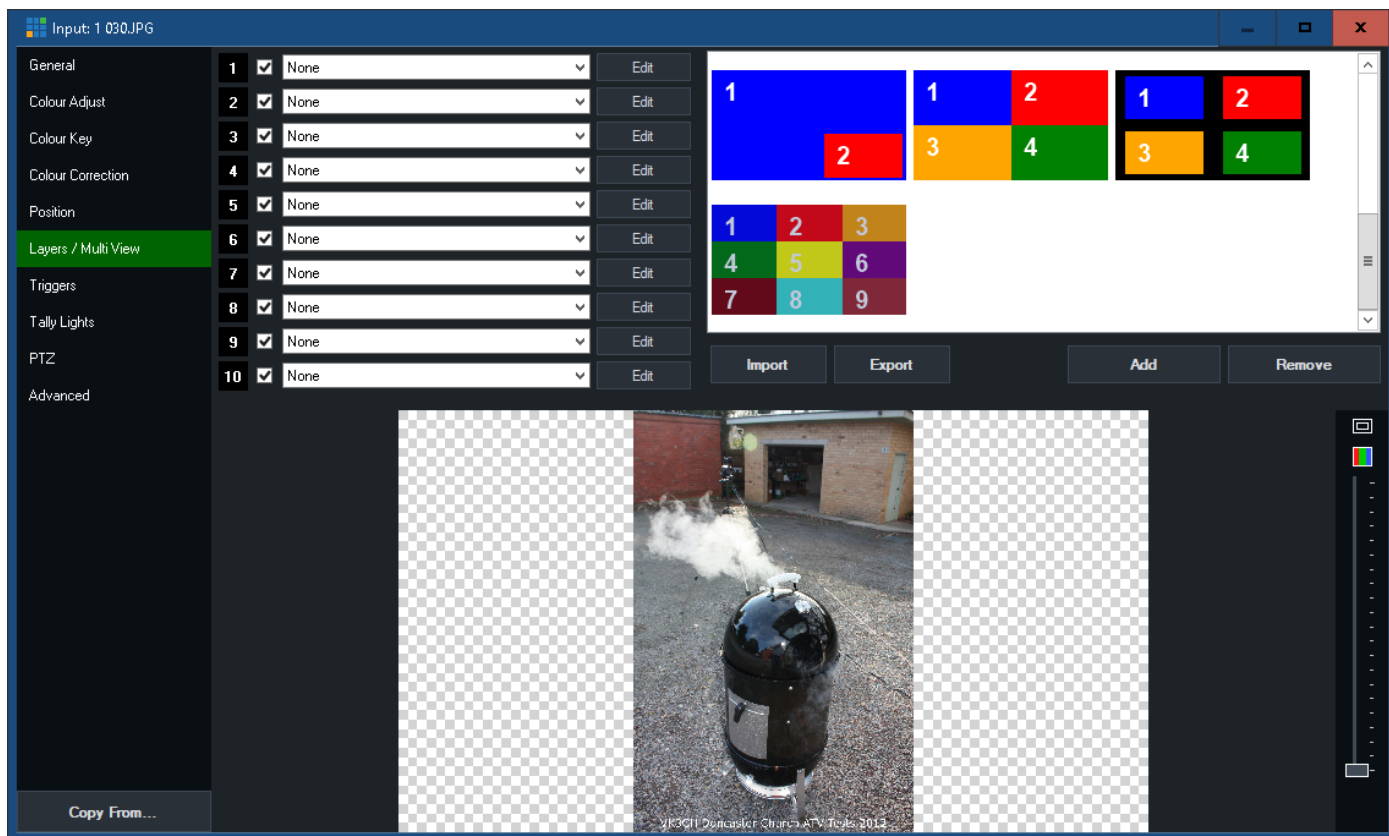


Before dropping videos in

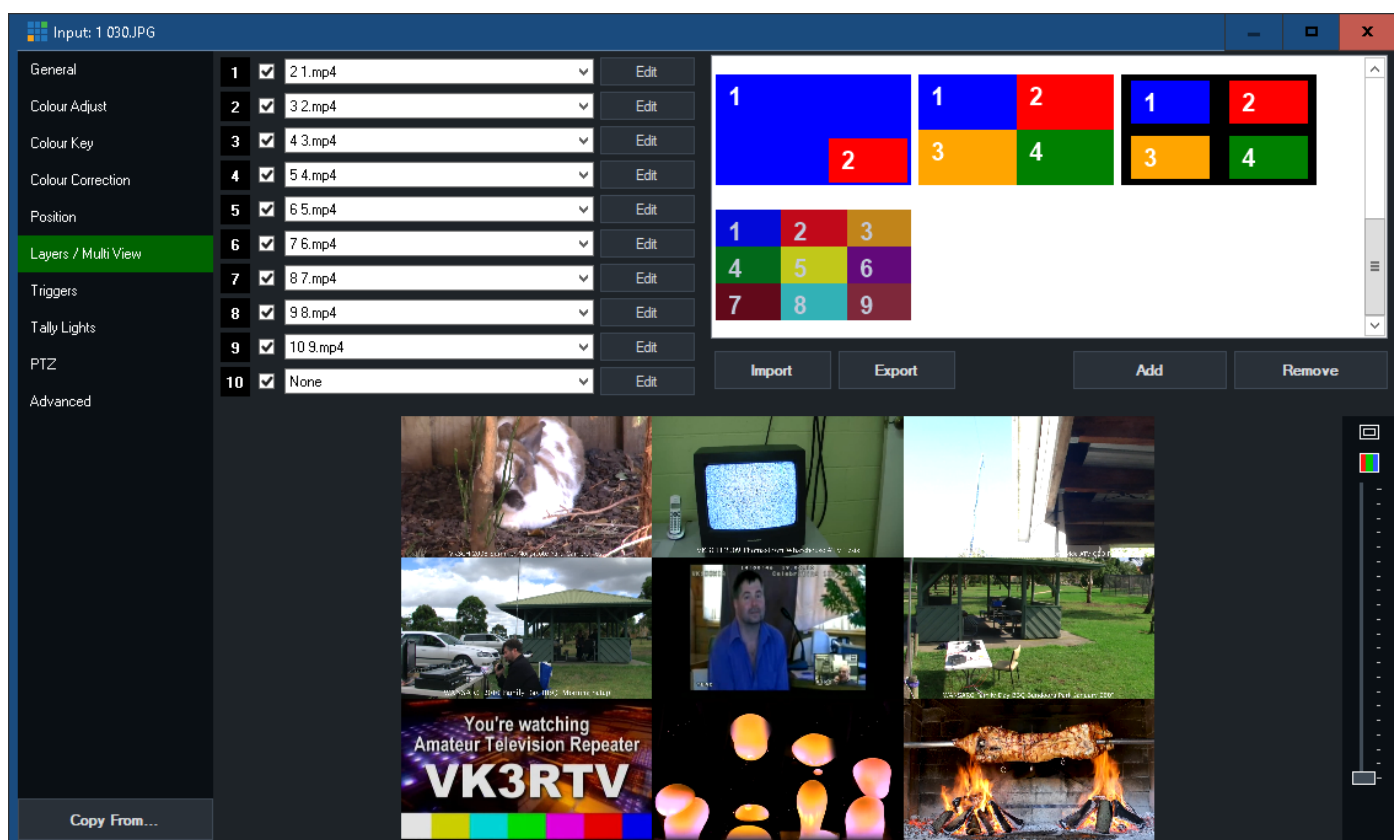


Afterwards

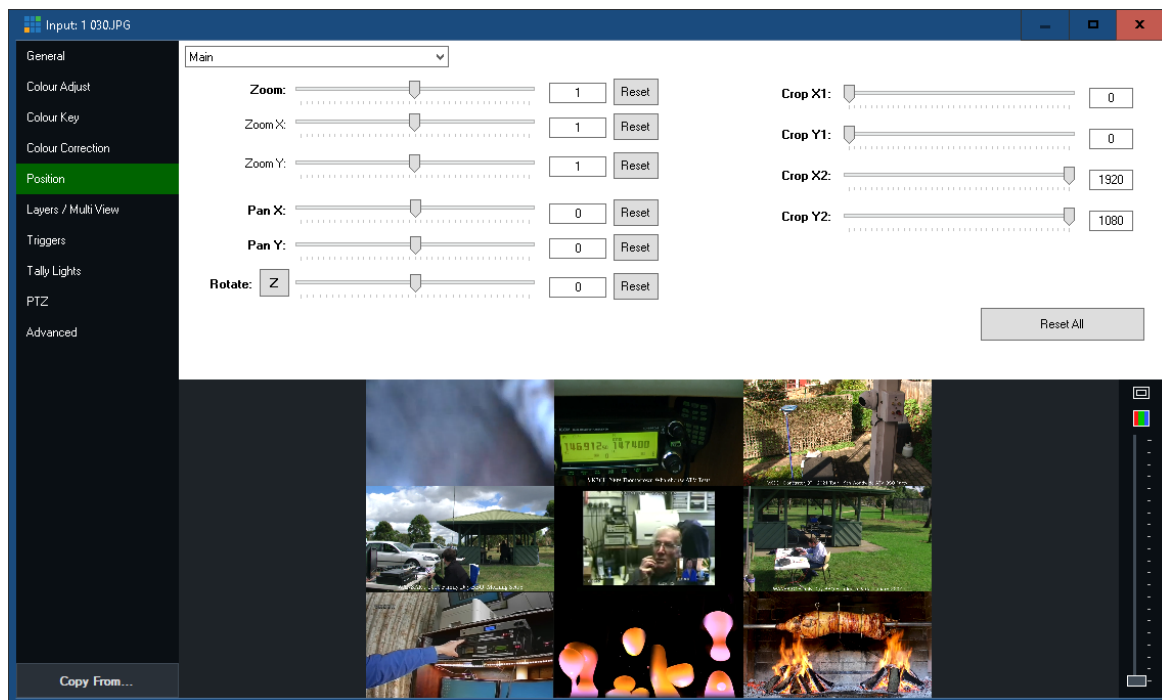
Click on the ► cog wheel of the photo you used, in my case the Smoker BBQ.
 The Layers / Multi View will appear, make sure ► Layers / Multi View is highlighted on the left menu.



Now in each of the tem click boxes, select your nine videos and it will look something like this when done.

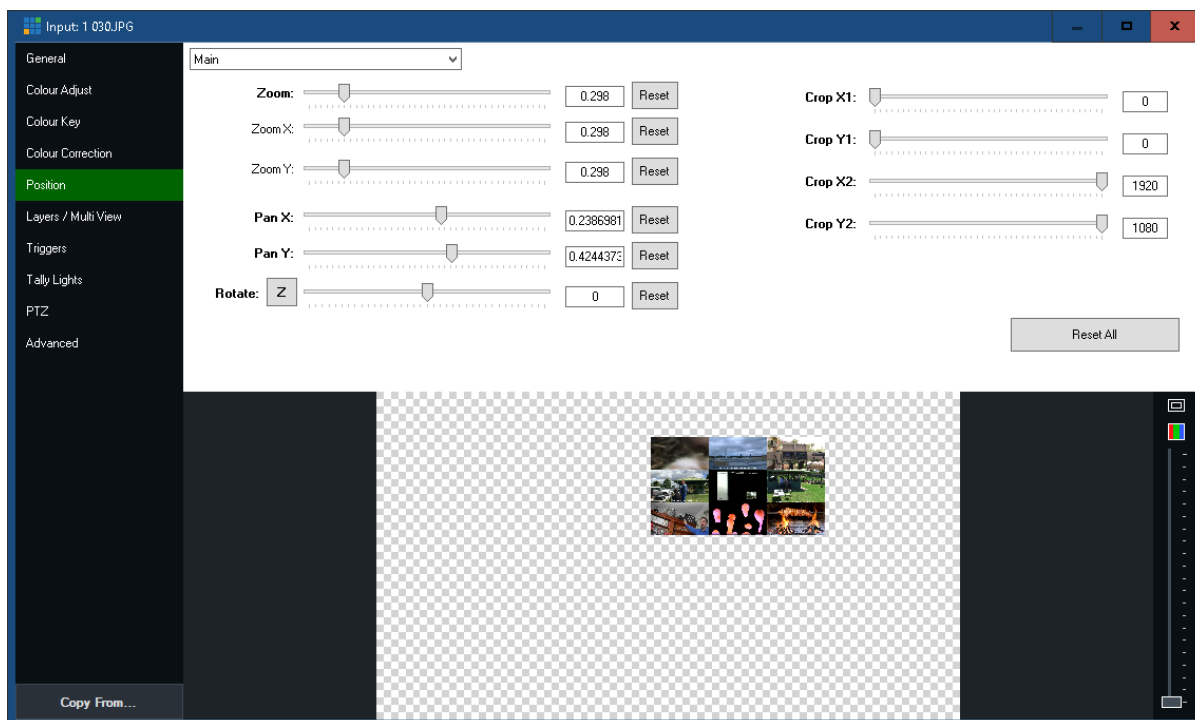


Now select ► Position on the left menu and then pick ► Main in the drop down arrow.



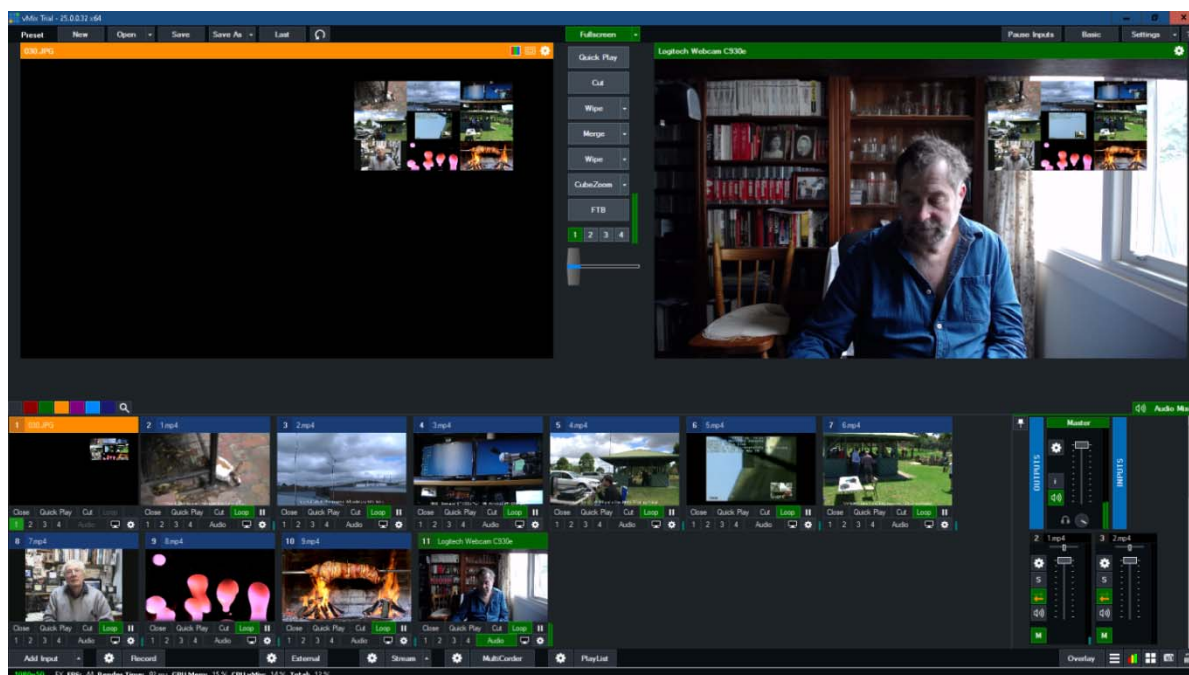
Now you can drag the top Zoom slider to make your video wall the size you want it on your live screen. Make sure you select what layer you want your video wall to use, you can pick from layer one, two, three or four. Each layer must only be used for one thing such as your video camera on one, your video wall on another and any title template on another.

You can also hold your mouse down on the nine video screen part and drag it about to select your desired screen position as below.



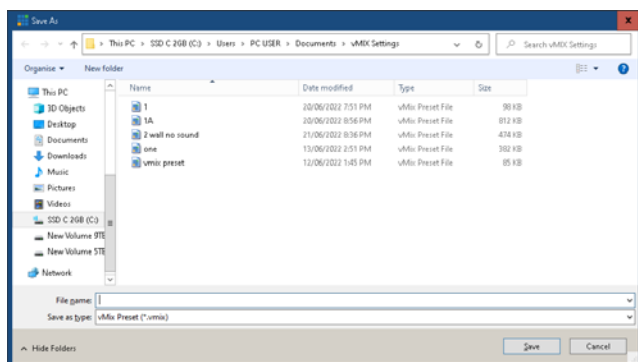
Click out of this Position screen.

Now on your vMix main screen, uncheck all the green “Audio” square, on each on the nine videos to have them not play audio, if you did not strip off the audio from the files before importing them into vMix.



If you forgot to select ► Loop and or the ► Play arrow, do this now.
Each preview box should be playing in real time now.

Now to save all your work so it opens with this same preset next time, select Save up the top left and save all your settings, give it a meaningful name so you can go back to it. You can setup multiple settings and name them so you can use different settings / layouts to suit your live video production.
Each time you start vMix it is a blank canvas so pick your desired setting each time you start vMix from the top left menu screen. These files are named as *.vmix



STRESSED OUT VIDEO CARD

When playing my video wall vMix reported: ‘Warning GPU Overload’
This was due to my nine videos being of good quality, so I processed them to be saved in another folder and selected a lower frame rate as they are small in screen size and the reduced quality will not be noticed.
Before lowering the video quality the nine videos in file size were 6GB, after going from a frame rate of 50 to just 15, the total file size dropped to 365MB, just 6% of the original size.

This solved the problem of the graphics card being over worked, in fact maybe I was too strict with the lower frame rate, I will try other settings in future. But you can record the live video output in high resolution and save that as a single file and just play that, which I did. No more video card overload – all good.

QUALITY OF HDMI CABLES VERY IMPORTANT

Occasionally very fine lines would appear on the vMix output monitor, which were also transmitted out. Wiggling the HDMI cables did not fix the problem.

Eventually I changed the HDMI cable feeding into the HDMI to HDMI AV Converter, problem solved. The old HDMI cable was very new and looked clean, you just can't tell, but it was a cheap one. So for serious television live production, proper HDMI cables must be used, especially with RF present.

MORE WEBCAMS

Two of my webcams were cheap UVC cameras, they give an OK picture, but vMix did not like them at all. So two more Logitech C930e webcams were ordered and used as main shack cameras, so three in total now. I will never understand Australia Post, the webcams got sent between West Sunshine Mail Sorting Exchange and Bayswater Mail Sorting Exchange six times, back and forth, over three weeks.

MORE USB PORTS

With all the inputs vMix does not like video sharing via any hub.

So dedicated USB inputs were used for any video.

A seven USB 3.0 Port PCI-E card was added to the PC.

STUDIO MICROPHONE

Now that vMix is controlling everything, audio is the one thing that seems to go wrong.

Instead of individual microphones in webcams a single point of audio source was decided.

A good USB microphone was found online, Philex PHM-5050 USB Condenser Microphone With Arm, \$80.

The specifications say *"This recording microphone captures the details, nuances, and articulation with a high sampling rate (192KHZ/24Bit), extended dynamic range and smooth frequency response of 100Hz-18kHz."*



The microphone on the adjustable stand, over the course of a few transmissions and feedback from viewers a permanent position will be found for the best sound. Also a place that is not blocking the view of the computer monitor, some items on the table will need to be relocated. The wind sock may be overkill given its in a non windy room, but it may as well be on the microphone, at least it won't get lost.



Looks in the way but vMix preview screen is visible

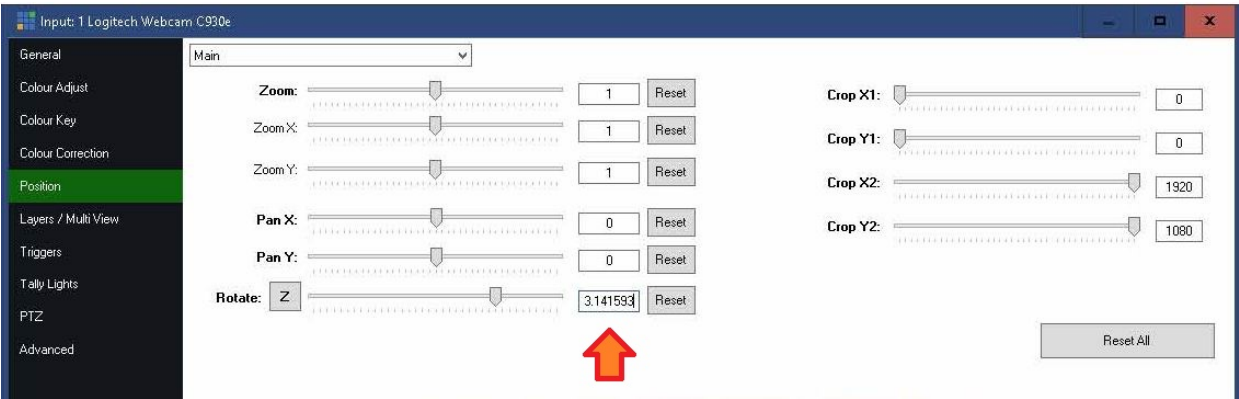


The pop screen and wind sock keep the audio nice

When it is not in use the microphone just swings out of the way so the monitor can be seen.
 If the gain is too high using the webcam microphone it gives low frequency humming feedback.
 With the professional microphone you have to turn the volume up way too high before any feedback happens.
 Even with the volume up, when I type on the keyboard no thumping noise is picked up by the microphone, clipped to the table just a hand span away.

HANDY WEBCAM SETTINGS

The main webcam was too far away from me sitting on the monitor and the digital zoom lacked clarity.
 So I decided to mount the webcam closer to me, but attaching it to the top surface of the table cabinet meant the only way to run the screw had the webcam upside down.
 I found a way in vMix to rotate the webcam image 180 degrees, upside down, using ► Rotate Z in Position.
 The final correct number was π or 3.141592653589793238 to be more exact, but vMix rounds it to 3.141593.



The only problem is only the webcam image only is rotated upside down.

The video wall and title were now out of position with the rotated image, adding the π value of **3.141592653589793238**, in Rotate Z in Position, solved these problems and dragging the video wall back to the correct position finished the job. These settings were saved in vMix, with the value rounded to 3.141593.

Only the main webcam will need these special settings.

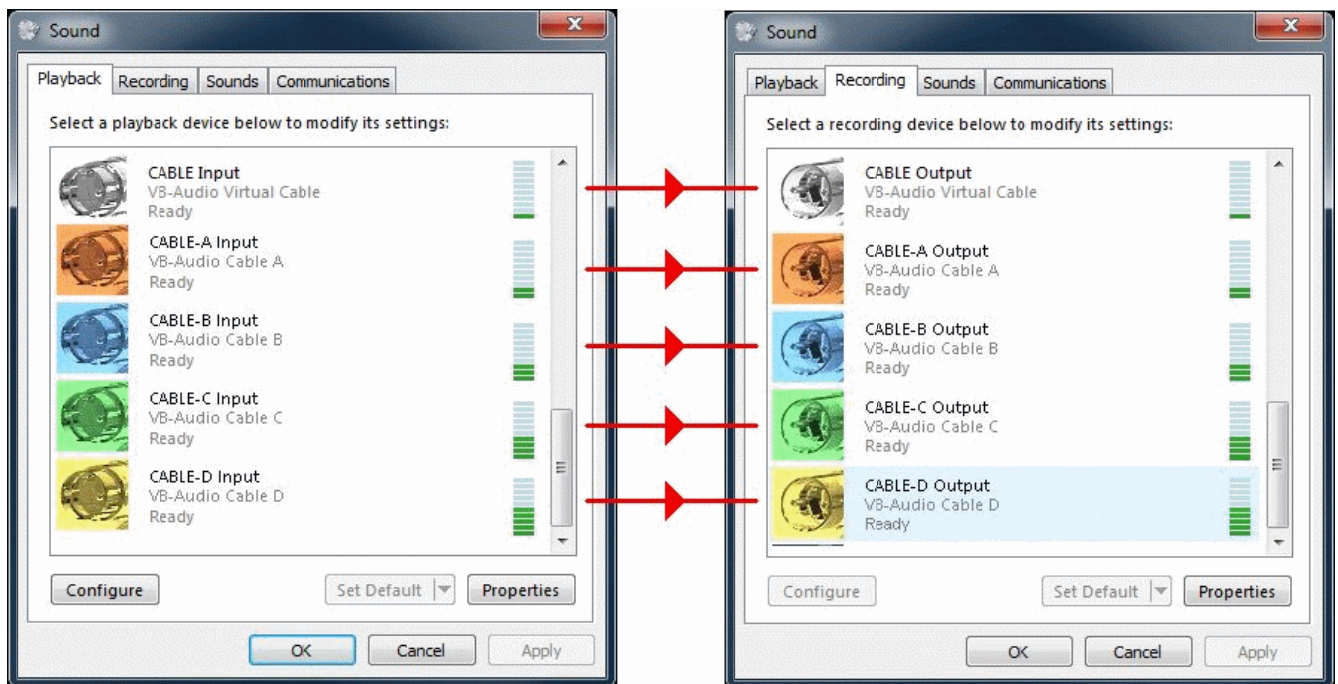
But another webcam mounted to view pointing down to anything on the table such as a project, or book page etc. can also be rotated 180 degrees if required.

USING vMIX WITH OTHER APPLICATIONS

This is quite an involved process, depending on the application you use, but the process is similar.

A virtual audio cable needs to be installed.

I got a free one at <https://vb-audio.com/Cable/>



All the information to add Microsoft Teams, for example, is here

<https://www.vmix.com/knowledgebase/article.aspx/278/how-to-add-microsoft-teams-via-ndi-to-your-vmix-production>

Another handy tool is <https://ndi.tv/tools/>

NDI® Tools is a free suite of applications designed to introduce you to the world of IP.

NDI makes it possible to connect to any device, in any location, anywhere in the world – and transmit live video to wherever you are.

NDI is a network protocol that enables audio, video, and metadata signals to be sent over standard networks in real-time. NDI is bidirectional, low latency, and can transmit video up to 4K and beyond. It is used in some of the largest broadcast environments in the world and many pro AV integrations. It is also used by individual users for video presentations or game streaming on single PC setups.

The second thing to know is that NDI is free to use. While some solutions – such as hardware with NDI built-in or specific software and applications – may come at a cost, the ability to access NDI is absolutely free. You can access NDI and its features immediately using tools you may already own.

The third key item is that NDI is more than just a transport. It allows for control of devices like PTZ cameras, capturing video feeds directly from the network to use in editing, and defines a standard for encoding and decoding. NDI is friendly to software applications, delivering high quality video. While all NDI is compressed, there is also a high efficiency option called NDI|HX that includes an easy way for devices to find each other on a network.

The history of NDI

NDI began life as a way to bring broadcast quality video to more creatives. During the creation of NDI, the broadcast industry was still largely reliant on SDI cabling to transport audio and video signals. SDI has been reliable for high-cost productions but difficult to manage at scale, cumbersome to reroute or transport, and limited by only being able to carry one signal in one direction, one at a time.

The idea behind NDI was to move video signals onto existing networks – and make it free to do so. NDI can operate on standard Ethernet. Even a 1 Gigabit connection allows multiple NDI streams to pass from sender to receiver. This enables more streamlined and elegant workflows in the broadcast and digital video worlds. NDI helps lower the cost of broadcast and video creation, and further democratizes access to high-end production capabilities.

These capabilities also spread to the pro installation space. Countless houses of worship, schools, live sporting and music venues, and enterprises have added NDI feeds to their workflows to improve communication. The free-to-access model allowed NDI to quickly move into the consumer space as well. A third-party developer created a free OBS plug-in that quickly became one of the most downloaded add-ons for the software. Free tools for Adobe software and VLC were created. Video meeting platforms such as Zoom([opens in new tab](#)) and Microsoft Teams([opens in new tab](#)) became NDI-capable.

Hardware was also developed. Manufacturers such as Sony, Panasonic, and Canon now offer NDI-enabled PTZ cameras. NVIDIA has enabled NDI capabilities that remove the need for traditional capture cards in videogame streaming.

A live production workflow

On the professional side of the equation, NDI is most commonly used in tandem with a live production system and video cameras for live video – or for pre-recorded video where camera switching is done in real-time to save on post-production efforts. These live production systems were once found only in the realm of broadcast – but are now more readily affordable by small-to-medium sized businesses and individual content creators.

In a commonly used setup, multiple pan-tilt-zoom cameras can be positioned in an area connected to the network. The live production system can be in another location – nearby, in another building, or even in another city or state. As long as the cameras and the live production system are located on the same network, they can communicate in real-time.

Converter boxes can be linked to HDMI or SDI devices and translated into network-friendly NDI signals. Computer displays can be captured using free software tools. Pre-recorded video clips can be inserted into the production with the simple press of a button. Even mobile devices with cameras can be linked into the system and used as a live video feed. The live production system also facilitates the live stream of the event – either to a broadcast or social channel, or to in-house viewers – or all of the above.

This ability to bring any type of AV feed into a live production system also provides a template for other uses. For example, what if you want to create high-quality video but only have your personal computer?

An OBS workflow

Open Broadcaster Software – more commonly called OBS Studio – is a free and widely used software featuring screen recording, video capture, and some video editing capabilities – all with the ability to design and switch between different templates called “scenes.” One of the most popular downloads for OBS is an NDI plug-in developed by an independent creator.

By combining the OBS suite of tools with NDI integration, you open up a completely free software workflow for live video production. With the free download of NDI Tools – and specifically, NDI Virtual Input – you can use any NDI source as an input in OBS. This could be anything from a high-end PTZ camera to an Android or iPhone device using an NDI app.

You could also use NDI to capture portions of any screen from any computer or device on the network. With the free tools – this time, NDI Screen Capture – you can pull in another PC or Mac as an input source within OBS. NDI mobile applications also exist that can provide screen capture capabilities.

This flexible and scalable environment is excellent for video interviews, videogame streaming, tabletop roleplaying and boardgame streaming, and on-site musical or stage performances. People have gotten extremely creative with these tools, with everything from cooking shows to exercise classes being produced – all within a free-to-use software environment.

Video game streaming

Video game streaming and esports deserve a special mention here as they use NDI in a particularly intriguing way. With NDI, you can eliminate the need for a capture card when using either one or two computers.

There is currently an application called NDI Screen Capture HX that is optimized for NVIDIA GPUs and removes all reliance on a PC’s CPU when capturing a screen – instead allowing the GPU to do all the work for screen capture. This means if you already own a PC with a later model NVIDIA graphics chip onboard, you have gained a 4K, hardware-accelerated, low latency screen capture capability for free.

For esports, the scalability of NDI comes into play in an important way. Multiple competitors’ displays can be accessed all at once by a production environment, meaning everything from one-on-one mobile gaming to team based MOBA games can be effectively turned into a broadcast. They can also bring in multiple camera angles of competitors, announcers, and the on-site crowd.

Remote meetings

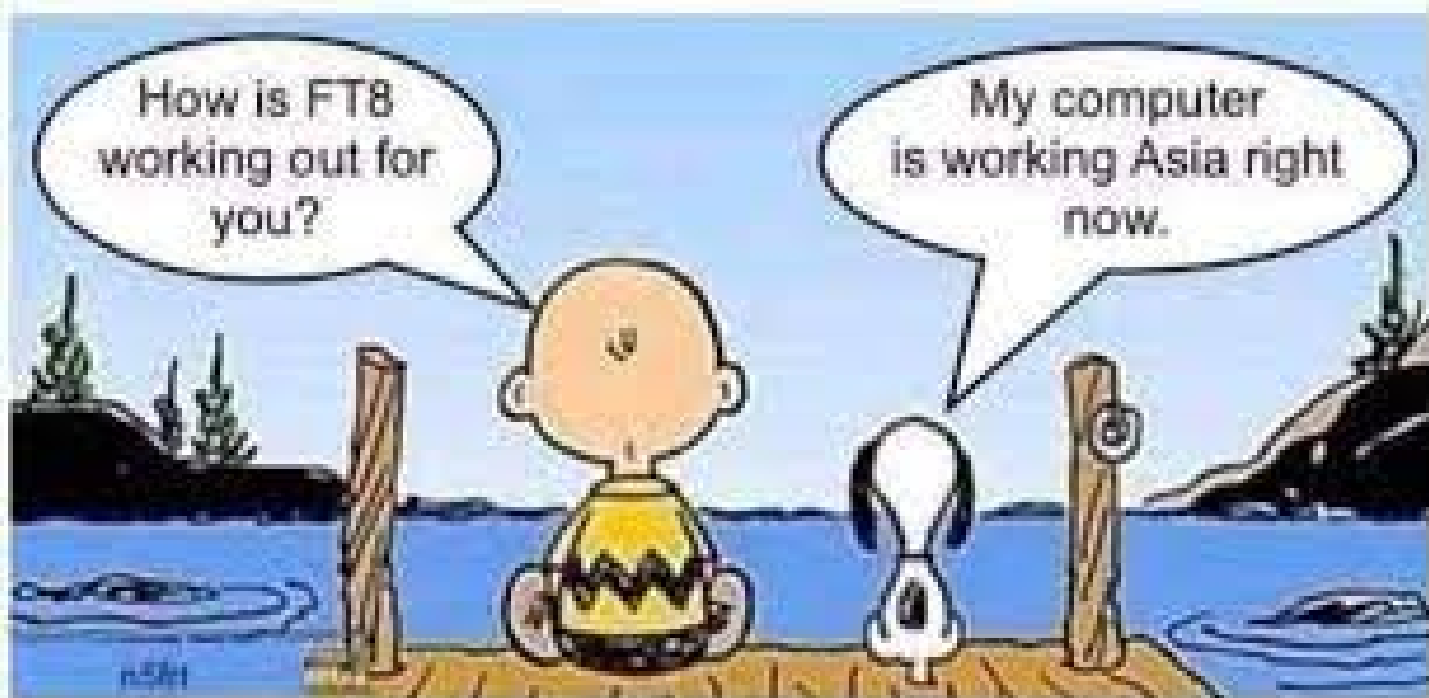
Even if you aren’t looking to broadcast your video to a wide audience, there are still upgrades that can be made to day-to-day video usage. The prevalence of remote work([opens in new tab](#)) due to the global pandemic means many have become on-screen professionals. That said, many have also discovered their laptop webcams([opens in new tab](#)) are subpar video devices.

Luckily there’s a fix. Many popular videoconferencing applications, including Zoom and Microsoft Teams, work with NDI Webcam Input. That means a mobile device’s camera can now be used as a webcam with an NDI mobile application. This can also be used in the ways outlined above – allowing you to quickly add a second video input or screen capture from another computer into your call.

POSTAGE DELAYS

More webcams and cables are in the post. The analogue video system will remain until the vMix system is fully tested and proven.

~Mick VK3CH



RIKIA



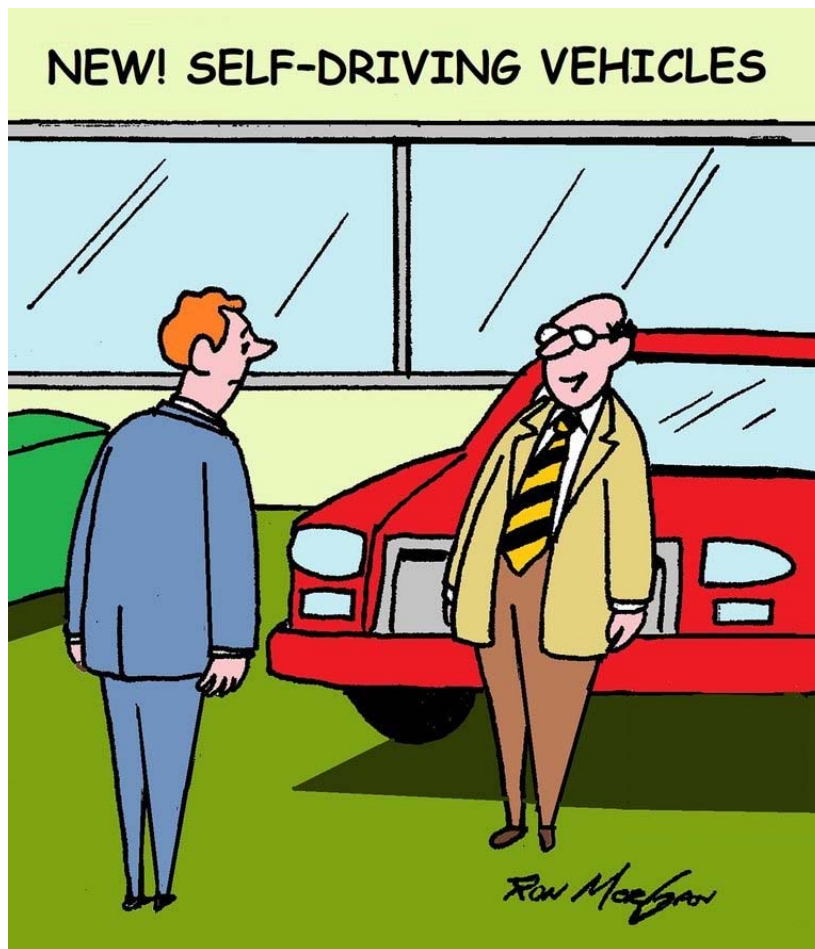
Plastic Ground Rods

No more rusting or corroded ground rods!
Use these plastic ground rods that will last many lifetimes!

- Very flexible and easily conforms to rocks, obstructions, etc. when driving into ground. They just bend around the rocks!
- No corrosion!
- No dissimilar metal issues...because it isn't metal!
- Low conductance.
- Impervious to red ants.







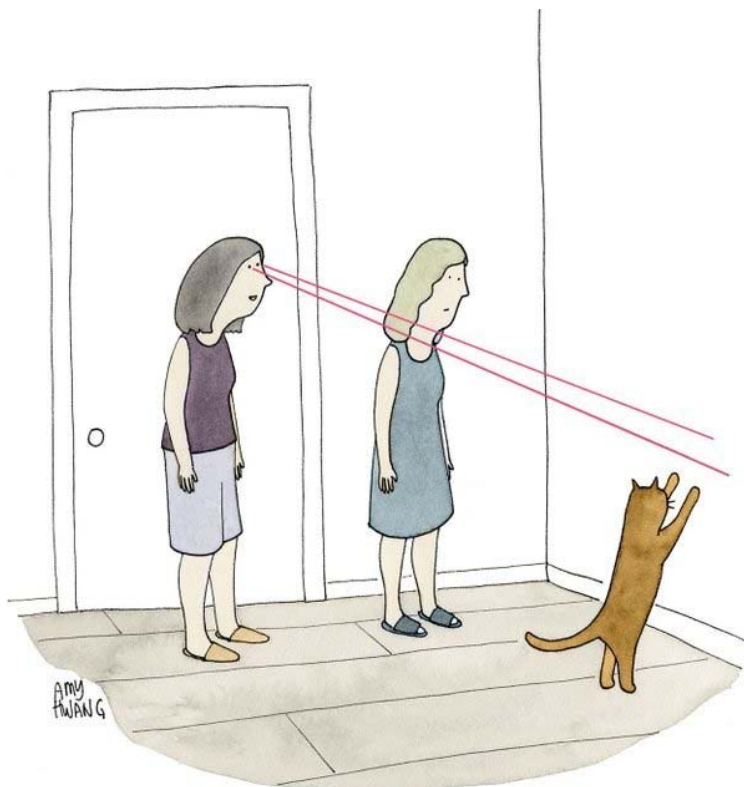
"And, if you fall behind on payments, it drives itself back to the dealership."



A real sign on a food stall shop at Preston Market, read the warnings, particularly the second line
Honest advertising, the food is very cheap



"I think we're named after computer passwords."



"My laser eye surgery was expensive but worth every penny."



"Please hold while we bring you the complete works of Johann Sebastian Bach."



"Have you tried opening the back and emptying the pencil shavings?"



Log on

Buying your first lettuce: where do you start?

We outline six steps worth taking in your lettuce buying journey so you can make your first salad with confidence.





"You're right. We should have built the castle first, *THEN* the moat."

Australia Ham Radio 40 Meter Net



7 Days a Week
10am Local time
(East coast)

7.100 MHz LSB

Approximately + or – QRM

Hosted by Ron VK3AHR

NEVARC 2 Meter Net

Net Control VK3ANE

NEVARC Linked Repeaters

VK2RWD, VK3RWO, VK3RWC

Wednesday - 8.00pm

Local time

President, VK3VS, Matt
Vice President, VK2VU, Gary
Secretary, VK2BFC, Frank
Treasurer, Amy Bilston



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.

As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.

NEVARC is an affiliated club of the Wireless Institute of Australia and The Radio Amateur Society of Australia Inc.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.

Meetings held at the Belviour Guides Hall, 6 Silva Drive West Wodonga.

Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.

Members are encouraged to turn up a little earlier for clubroom maintenance.

Call in Via VK3RWO, 146.975, 123 Hz tone.

NEVARC NETS

HF

7.100 MHz 7 Days a Week - 10am Local time

VHF

VK2RWD Wednesday - 8.00pm Local time

NEVARC Linked Repeaters: VK2RWD, VK3RWO, VK3RWC

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal:

NEVARC Secretary
PO Box 8006
Birallee Park
Wodonga Vic 3690

Facebook: www.facebook.com/nevicARC/



All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio.

Contributions to NEVARC News are always welcome from members.

Email attachments of Word™, Plain Text, Excel™, PDF™ and JPG are all acceptable.

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Please include a stamped self-addressed envelope if you require your submission notes returned.

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Attachments of (or thought to be) executable code or virulently affected emails will not be opened.

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Other articles credited to outside sources should ask for their permission if they are used.

While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website <http://nevarc.org.au> has current information on planned events and scheduled meeting dates.

You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au. The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.